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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,803	10/16/2003	Uri L. Zilberman	25771-X	5141
20529 7590 03/04/2009 THE NATH LAW GROUP 112 South West Street Alexandria, VA 22314				
EXAMINER NELSON, MATTHEW M				
ART UNIT 3732		PAPER NUMBER		
MAIL DATE 03/04/2009		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/685,803

**Applicant(s)**

ZILBERMAN, URI L.

**Examiner**

Matthew M. Nelson

**Art Unit**

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Amendment filed on 12/09/2008 is acknowledged. Claims 1-10 remain pending and claim 11 has been cancelled.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long (US 4,678,435) in view of Wilson (US 5,487,663) and further in view of Dougherty (US 3,647,498).
4. Long shows a dental crown (prefabricated plastic shell 10) configured to be readily mountable in a patient's mouth as part of a treatment having a natural appearance of a vital tooth comprising a tooth shaped top surface (occlusal layer 12; col. 3, lines 14-18) and depending side surfaces (buccal side 14 and lingual side 16) extending continuously around edges of the top surface (col. 3, lines 20-23) and from a tooth shaped top surface end (occlusal layer 12) of the dental crown to an end opposite the end (free edges 18, 20) of the dental crown (col. 3, lines 20-23), at least one of the side surfaces form an undercut defining an inwardly directed bottom portion extending to said opposite end of the crown (Fig. 6, 15). However, Long does not show crown of

the color of vital tooth and the crown being formed of a flexible, thermoplastic material which has dimensional stability and sufficient resilience.

5. Wilson teaches a dental crown (appliance 10) made of flexible (col. 3, lines 7-12), thermoplastic material (col. 4, lines 26-33). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify Long by substituting the flexible, thermoplastic material of Wilson in order to provide adaptability, thinner walls, and strength to withstand biting and chewing. However, Long in view of Wilson fails to show crown of the color of vital tooth.

6. Dougherty teaches dental crown (material) being subtly colored. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the crown to having subtle coloring in order to have a crown simulate natural tooth. Dougherty shows thermoplastic material of polymethylmethacrylate and further comprising pigment or filler. It would have been obvious to one of ordinary skill in the art as to the process and intermediate products used in the process by which the dental crown is made, for example, injection molding and multi-element mold, because a product claim is properly met if the final product is shown regardless of the process used.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy (4,129,946) in view of Dougherty and further in view of Karmaker et al. (US 6,186,790).

8. Kennedy discloses a dental crown 10 configured to be readily mountable in a patient's mouth as part of a treatment having a natural appearance of a vital tooth

comprising a tooth shaped top surface 12 and depending flexible side surfaces 15,16,17 extending continuously around edges of the top surface and from a tooth shaped top surface end of the dental crown to an end opposite the end 13 of the dental crown (column 5 line 10), the crown being formed of a thermoplastic material (column 1 line 63) which has dimensional stability and sufficient resilience, at least one of the side surfaces form an undercut defining an inwardly directed bottom portion (figure 4); however, Kennedy does not show crown of the color of vital tooth and polymer material as claimed.

9. Dougherty teaches dental crown (material) being subtly colored. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the crown to having subtle coloring in order to have a crown simulate natural tooth. Dougherty shows thermoplastic material of polymethylmethacrylate and further comprising pigment or filler. It would have been obvious to one of ordinary skill in the art as to the process and intermediate products used in the process by which the dental crown is made, for example, injection molding and multi-element mold, because a product claim is properly met if the final product is shown regardless of the process used. However, Kennedy in view of Dougherty fails to show polymer material as claimed.

10. Karmaker teaches a dental crown formed of a variety of thermoplastic polymer material including polycarbonate, polysulfone, polyacetal, polyacrylate and polymethacrylate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a polyacetal polymer of Karmaker, because

Karmaker teaches the material was known as art-recognized equivalent material at the time the invention was made in forming dental components including crown forms. Furthermore, a specific polymer material is not disclosed as critical to the claimed invention. It is noted that Karmaker also show dental crown formed of a variety of processes including injection molding, compression molding and machining.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection. Arguments directed to claim 10 have been fully considered but they are not persuasive.
12. Applicant argues that Kennedy differs in color-related issues, is not a typical crown, and does not show a inwardly directed bottom portion extending to said opposite end of the crown. The Dougherty reference is included to obviate the color-related issues, the structure of Kennedy reads on applicant's current claim language, and the inwardly directed bottom portion extending to said opposite end of the crown limitation is has not been amended into claim 10. The inwardly directed undercut is shown at 13 in Fig. 4 and the claim language does not prohibit the outwardly extending flange 20.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew M. Nelson whose telephone number is (571) 270-5898. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MMN/

/Cris L. Rodriguez/  
Supervisory Patent Examiner, Art Unit 3732